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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,394

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EXAMINER

CHAN, KAWING

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,394	Applicant(s) TAKASAKI ET AL.	
	Examiner Kawing Chan	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 7-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 3 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>09/01/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 7-16 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species II, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12/18/09.

Claims 1-6 are pending for examination.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 09/01/06 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by examiner.

Claim Objections

4. Claim 6 is objected to because some of the limitations recited in the claim are essentially the same as the limitations recited in claim 1, for example, "an electric double layer capacitor", "a voltage detection unit" and "wherein said drive control unit..."

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in line 11. In order to avoid confusion, applicant is suggested to remove the same limitations recited in the claim.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claims 3 and 5 fail to correspond in scope with that which applicant regard as the invention can be found in Figures 5 & 7. In the Figures, applicant indicates an initial charging circuit (26) comprising a switch (24) and resistance (25) connected in parallel, and this indicates that the invention is different from what is defined in the claim(s) because the recited limitation in lines 2-3 indicates the "initial charging circuit" is "connected in parallel with said switch and a resistance".

7. Claims 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 5 recites the limitation "said switch" in line 3. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) from the specification in view of Ando (JP2000053338A).

In Re claim 1, with reference to Figure 1 of the specification, AAPA discloses an elevator control device having:

- A rectifier circuit (2) that converts an AC voltage from an AC power source (1) to a DC voltage;
- A DC capacitor (3) that smoothes ripples of said DC voltage;
- An inverter (4) that converts a smoothed DC voltage to an AC voltage of variable voltage and variable frequency;
- A motor (11) that is driven by said AC voltage that is output from said inverter (4) to raise or lower a passenger cage (14);
- A resistance chopper (18) that is connected in parallel with said DC capacitor (3); and
- A drive control unit (5) that controls said inverter (4) or controlling said resistance chopper (18) such that AC voltage of variable voltage and

variable frequency is output in accordance with a speed instruction (Pages 1-2 of the specification).

AAPA fails to disclose said elevator control device comprising an electric double layer capacitor, a voltage detection unit, and wherein said drive control unit employs a voltage in a vicinity of a rated voltage of a electric double layer capacitor as a drive voltage of a resistance chopper and operates and controls said resistance chopper when a terminal voltage detected by said voltage detection unit reaches a voltage in a vicinity of said rated voltage of said electric double layer capacitor.

However, Ando discloses an elevator control device comprising:

- An electric double layer capacitor (large capacity capacitor 21) having an electrostatic capacitance that is substantially larger than that of said DC capacitor (3) and that is connected and that is connected in parallel with said DC capacitor (Figure 2), and capable of accumulating substantially all of a regenerated power from said motor (i.e. regenerated power getting from the DC capacitor and the motor) (Paragraphs [0005, 0006, 0029]; and
- A voltage detection unit (22) that detects a terminal voltage of said electric double layer capacitor (21);
- wherein said drive control unit (30) employs a voltage in a vicinity of a rated voltage of a electric double layer capacitor as a drive voltage of a resistance chopper and operates and controls said resistance chopper when a terminal voltage detected by said voltage detection unit reaches a

voltage in a vicinity of said rated voltage of said electric double layer capacitor (AAPA in page 3 discloses that the resistance chopper is controlled and operated when a terminal voltage detected by voltage detection unit reaches a voltage in a vicinity of said rated voltage of the DC output line; therefore, the drive control unit employs a voltage in a vicinity of a rated voltage of the DC capacitor as a drive voltage of a resistance chopper. Since Ando discloses an electric double layer capacitor connected with a DC capacitor in parallel in an elevator control device, it would have been obvious to one skilled in the art to utilize the rated voltage of the electric double layer capacitor as the rated voltage of the DC output line because the rated voltage of the electric double layer capacitor is the same as the rated voltage of the DC capacitor).

Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have modified the teachings of AAPA with the teachings of Ando, since it is known in the art to utilize an electric double layer capacitor as a backup power source in an elevator control device so as to be able to provide power to the elevator during power failure.

In Re claim 2, Ando discloses a switch (24) connected in series with said electric double layer capacitor (21), that is turned on in response to an operating instruction from said drive control unit (30) during normal operation and that isolates said electric double layer capacitor from said DC capacitor when operation is stopped (Paragraphs [0010, 0011]).

10. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Ando (JP2000053338A) as applied to claim 1 above, and further in view of Goto et al. (US 6,539,739 B2).

In Re claim 4, AAPA and Ando have been discussed above, but they fail to disclose a current breaking circuit.

However, with reference to Figure 9, Goto discloses a current breaking circuit (2) connected in series with said electric double layer capacitor (7) and that breaks an inflow of excess a current (Col 1 lines 10-23).

Although the current breaking circuit disclosed by Goto is not used to prevent excess current produced by a short-circuit fault of said DC capacitor or said inverter, Goto provides the teaching of using a current breaking circuit (2) to prevent the electric double layer capacitor from being damaged during the charging process. Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to have combined the current breaking circuit as disclosed in Goto with the electric double layer capacitor as disclosed by AAPA and Ando. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time the invention was made.

In Re claim 6, all the recited limitations are essentially the same as the limitations recited in claim 1, except for "when said inverter is below a prescribed

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switching frequency, substitutes for a voltage smoothing function of said DC capacitor by deletion of said DC capacitor".

In page 26 of the specification, applicant discloses that "as long as the switching frequency of the inverter is not more than a few kHz", the electric double layer capacitor "can substitute for the voltage smoothing function that would otherwise be performed by the DC capacitor". In addition, Goto discloses that the electric double layer capacitor (large capacity capacitor 7) can be used as a voltage smoothing function (Col 1 lines 10-23). Since Goto discloses the electric double layer capacitor provides the same function as the claimed limitation, the inverter (11) disclosed in Goto is inherently functioning the same as the claimed limitation (no more than few kHz of switching frequency).

Allowable Subject Matter

11. **Claims 3 and 5** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The cited prior art do not teach or suggest an elevator control device comprises a drive control unit, wherein the drive control unit charges said electric double layer capacitor while restricting a current during current passage from said AC power source by means of said resistance when said switch is turned off on commencement of current passage from said AC power source and that connects said electric double layer

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capacitor in parallel with said DC capacitor when said switch is turned on after a required time after commencement of passage of current by said AC power source.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Eilinger, Araki, Okamura, Smith et al. and Takahashi et al. are further cited to show related teachings in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kawing Chan whose telephone number is (571)270-3909. The examiner can normally be reached on Mon-Fri 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on 571-272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/K. C./
Examiner, Art Unit 2837

/Walter Benson/
Supervisory Patent Examiner, Art Unit 2837